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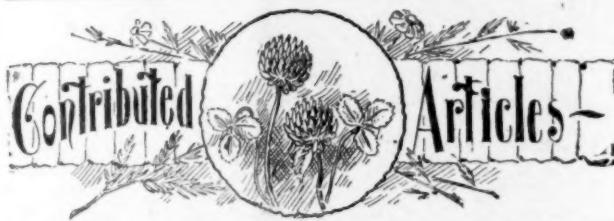
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No. 17.



Continuing to Work Toward Comb Honey.

BY G. M. DOOLITTLE.

As a rule, I do not think it best to call attention to slight mistakes in any article of mine, after they get in print, whether the mistake was made by the "typo" or myself, but the one in my article, on page 193, is of such a character that it should be rectified. The sentence at the bottom of the first column reads: "The next pleasant day more are put out in the same way, and at about the same time, scattering them about as before, but paying no attention as to how near they come to those put out at the same time." The "at the same time" should have been *before*, as bees set out at the same time will mix up on their first flight after being set from the cellar, if set near each other, but if one of these colonies has been out of the cellar 24 hours or more, the bees will not mix, no matter how closely to the first set out, the second one may be placed.

With this explanation we will continue the theme of working for comb honey, beginning where we left off on page 194. After having reversed the brood-nest, as there given, we wait for about 10 days, when we take a frame of honey from the colony, if the hive contains such, or from the shop, if we have such there and not in the hive; or if we have no frames of honey anywhere about the premises, we fill combs with sugar syrup, which will answer the same purpose. We now open the hive and separate the brood-nest in the middle, when we insert this comb of honey or sugar syrup in the center of the brood-nest, after which the combs are brought up to comb-space apart all through the hive, and the hive closed. If it should be a comb of sealed honey used for this purpose, the sealing to the cells should be broken by passing a knife flat-wise over the cells, bearing on sufficiently to break the cappings to the cells. Most writers tell us to use a feeder when feeding bees in the spring, but after trying all plans of feeding to stimulate brood-rearing, I have never found anything which will begin to equal this plan here given, all things taken into consideration.

By the removing of this honey and the queen immediately filling the comb with eggs as soon as the honey is removed, brood-rearing is accelerated to an extent greater than in any other way I know of, while the excitement caused by the same, causes the bees to keep up the proper temperature in the brood-nest, even should a few days of cool weather occur at this time, which is not very liable this late in the season.

The great objection to the spreading of the brood, usually placed before the bee-fraternity, is that there is danger of a cold snap occurring just after such a manipulation, which often causes the death of much brood, this being against an increase of bees in time for the honey harvest, rather than favorable to the same. No one should advise the promiscuous spreading of the brood, or an ignorant attempt of the same

by any novice, but by a careful, intelligent use of the plan as here given, the prospects of a good yield of comb honey is greatly increased, where the honey-flow we are striving to reach with our laborers commences on or before July 1st to 10th. If the honey-flow occurs later than this, most colonies, as a rule, will get strong enough in numbers to do good work in the same, if they are "left to their own sweet will."

In about 10 days more, the brood-nest is to be reversed again, when, if all has worked well, there will be brood in all but the two extreme outside combs at each side of the hive, and generally some in these; but if not, there soon will be, owing to the full sheets of brood coming next to them. This plan of spreading of the brood has often been called "fussy," and too much work is attributed to it, but from 25 years' experience with what is outlined above, I am prepared to say that no work with the bees pays as well in comb honey as a judicious use of this plan. It will be noted that no hive need be opened more than three times previous to the honey harvest, while the doing of this practically insures to us the laborers for the harvest, *just* in time for the harvest; and the having of the laborers just in time for the harvest is the one great secret of successful comb-honey production. Failing in this point—of securing the laborers in time for the harvest—the flowers will bloom in vain for us, and empty sections be the greeting we shall have after the harvest (we might have had) is over.

In all of the operations with bees in the spring of the year or early part of the summer, the top of the hive should be closed as tightly as possible, the quilt, if you use one, be tucked down as neatly as possible, so that the warm air generated by the bees shall be continually escaping from the hive through the cracks left open, for warmth in the hive and cluster is another of the great essentials toward securing the laborers in time for the honey harvest, for brood-rearing cannot go on to its greatest degree unless the temperature inside the cluster can be steadily maintained at from 92° to 98° above zero, as I have proven by several tests with a self-registering thermometer.

Then, each hive should be provided with a wide alighting-board, reaching from the hive-entrance to the ground, so that bees coming home heavily loaded with pollen and partially chilled on cool, windy days, when the sun is partially shaded by clouds, may not fall under the hive by missing the entrance to the hive, and die from cold when being so near home. I have seen hundreds of dead bees under hives set on stakes a little up from the ground with no suitable alighting-board, each bee having its pollen-baskets filled with pollen. Each old bee is worth, at this season of the year, 500 after the honey harvest is over, hence we should look well to all of the little things which, at this time of the year, tend toward our success in the immediate future.

Borodino, N. Y.



Apiaries in Sunny, Sheltered Places.

BY GEO. J. VANDEVORD.

I read Mr. Davenport's article, on "Locating Apiaries in Sheltered Places" (page 82), with much interest, and after reading that he would like to have others give their experience along this line, I thought perhaps my own experience might be of some little interest and value to others, though it does not coincide with very much that I have read, but unless I am mistaken in the conditions prevailing in Mr. Davenport's

apiary, his experience, so far as he states it, tallies exactly with mine.

From the results described by Mr. D., I should judge that his hives were all single-walled, and also without packing at the top, for my experience has been that a sunny, sheltered place is a very poor place to attempt to "spring" bees that are housed in single-walled hives, but on the contrary, it is the place, par excellence, to locate an apiary where chaff hives or packing are used; as (in my opinion) they ought to be used in all northern localities, and in some that do not claim to be very northern, too, and even though the bees are wintered in the cellar. Such hives, in such a location, very soon make up the cost of the packing, if the honey-flow amounts to anything before basswood, though where the main flow is from basswood and fall flowers, and no increase is desired, much of the importance of a "sunny location" vanishes.

I have an apiary located on a rather steep bank of a ravine, facing the south and southwest, extra-well protected from winds from almost any direction, where a few hours' sunshine on fine days in the winter cleans away the snow in quick order, and leaves a dry footing for the bees to alight on, should they fly during the winter (winter bees outside); and I find after trying no packing at all, packing lightly, and packing extra heavily, that the bees that are best protected from the heat of the sun's rays beating directly on their hives, winter the best, spring the best, and consume the least stores in reaching their maximum strength in the spring; and more than that, they are far in advance of the average strength of colonies in the same neighborhood that have not the combination of a sunny location and packing.

Some of my bee-keeping friends around there believe in sunshine and shelter from winds; some believe in packing, and some in neither, and I think there is pretty good ground for this apparent difference of opinion found in their different systems of management.

Is not this "sunshine and shelter theory" a tradition handed down to us from the days of box-hives, when the combs ran "criss-cross" in the hives, and gave the bees a protection from sudden changes of temperature, that the orderly method of modern movable frames does not allow? and do not many of us accept this old maxim without any modification to suit our changed conditions? Occasionally some of the observant ones have "kinder wondered" why the bees have spring-dwindled so badly in some "beautiful location," while they came through a perhaps cold and backward spring without very much loss, in another apiary near by that was considerably exposed to all kinds of weather.

I noticed that my bees seemed to have a pretty tough time of it in getting through the spring in decent condition, when I first began bee-keeping there, as I used to clear away the packing pretty early in the season "to let the sun get at them and warm them up;" but after keeping bees for a year or two, and learning more of their habits, and the detriment it was to them to be continually disturbing them, or causing them to take useless flights, it struck me that that was the very thing the sun was doing nearly every day, for a month before there was much pollen or honey to be secured; and that it was rather unreasonable to clear away the packing before there was plenty of both pollen and honey coming in, and since then I have found minor reasons why it is advisable to keep bees packed nearly if not the whole year through, the two chief of which are, the steady and more certain increase of brood (no check ever occurring from a rapid lowering of the temperature outside), and the better and cheaper work done in comb-building and capping honey right out to the corners of frames and sections.

On the other hand, if I had decided, from any reasons, that it suited my purpose to run a certain apiary in single-walled hives, I would choose a place where the wind got all around the hives; and I would put them where the sun had to raise the temperature for miles around at the same time that it warmed the hives, for then there would have to be a pretty general rise in the temperature before the bees inside the hives felt the influence of the sun to any very great extent, and thus no harm would be done like there would if these same single-walled hives were put in a place that, because of its shelter, allowed the sun to raise the temperature very rapidly on every fine day, and did not allow the wind to circulate freely over and around the sun-heated surfaces of the hives.

These frequent warmings up, and the general jubilee that always accompanies them, are a very positive detriment to the bees, causing loss of vitality, and an unnecessary consumption of stores, without any corresponding gain; so that when the hard labor of pollen and honey gathering in the spring really commences, the remaining bees are practically old and feeble,

and rapidly "dwindle" away; whereas, had they been located in a sunny, sheltered place, and protected by packing from these short periods of warm sunshine, so that when they were induced to fly the average temperature outside their sunny location would not be too low for them to withstand, and inside their shelter it is so much warmer that once the bees are aroused, the air they will at once begin to fan out of their hives is replaced by air fully as warm, which materially assists them in maintaining and increasing the heat of the contents of the hive; and where these congenial surroundings exist, bees from these hives will be found to have enough vitality and bee-sense to "make for" their sunny home at any lowering of the temperature outside the shelter. They will not as quickly commence to rear brood, but they will hold every cell that they do start, and will have their 8 frames chock-full of brood from a few days to a few weeks earlier than those in single-walled hives in any location, sheltered or otherwise; and if they started the season with the same amount of stores as those in single-walled hives, they will have consumed less at the commencement of the honey harvest, though they will have a larger force of more vigorous bees. More vigorous, because at no time in their development have they been subjected to any serious "cooling off," or any stint in food-supply because any of them happened to be left outside the cluster on a cold night.

This so far is not theory, but my experience in the apiary, and from this it will be seen why I think we cannot afford to do without packing, and how I think we can get the benefit of the great advantage that a sunny, sheltered location may be to any apiary.

Rudyard, Mich.



Cellar-Wintering—The Apiarian Outlook.

BY MRS. L. C. AXTELL.

We put out our 83 colonies of bees (that we had in the cellar) half of them March 10, and the rest on the 26th. All were alive but one, and it seemed to have had laying-workers, from the appearance of the brood. They fly as if they were very strong and in good condition. The 40 wintered out-of-doors also fly as if in good condition. Probably when we examine them all through, we will find some that are weak, as is always the case, but now as they fly on warm days they will fill the air like they do in swarming-time.

We took up less dead bees from the cellar than usual. We try to sweep all dead bees up that fall on the bottom of the cellar, about once in two or three weeks—not longer—as we think it must be very unhealthy for us to breathe the cellar-air tainted with dead bees. I do not think all people who winter bees in the cellar are as careful as they ought to be, to remove the dead bees often. Although in the cellar, yet the cellar-air permeates the living-rooms above more than we think.

One winter we left our bees for one month shut up in the cellar while we were away on a visit. The living-rooms were not opened much while we were gone, yet we had a neighbor throw open the cellar-doors on all warm nights while we were gone. When we came home, the rooms above the cellar were very damp, the windows were frosty, clothing in a closet in the center of the house over the cellar was not fit to wear until dried, and yet the cellar was plastered overhead. We had then about 125 colonies in the cellar.

Some years ago I remember calling on a bee-keeper one spring, in April, I think. They had not yet taken their bees from the cellar. As soon as I went into the house the bad cellar-smell met me. I noticed it immediately. It struck me that it smelled like a corpse. The man and his wife were in poor health. I do not remember how about the health of the children, but the wife died in a year or so.

I do feel we ought to be careful to remove all dead bees from the cellar quite often, and then there will remain many under the hives and in places we cannot reach, so we ought to air the rooms above every day as much as possible, and some rooms ought to have a window raised night and day.

What is true of dead bees is true of all impurities in cellar or house. Decaying vegetables, dusty carpets, moldy wallpaper, etc., will tell upon the health of the family.

THE OUTLOOK FOR BEE-KEEPING.

It has been the editors of bee-papers that have kept bee-keeping from shipwreck, by gathering up everything possible pertaining to the best interest of bee-keeping, and putting it in a shape so we can learn how to make the most of our bees with the least possible labor, and, indeed, that is the secret of success everywhere—to get the most we can out of our labor.

I think no one should embark in bee-keeping expecting to

make a living solely from that pursuit. In years past it has paid, but seasons have changed, the ground is much drier than in former years—we know this by all farmers having to dig their wells deeper; the almost entire tile-draining of every low and swampy piece of land, and putting in some kinds of grain that bear no honey-producing flowers, and destroying the wild flowers that produced honey. (I speak of the condition of things in this neighborhood and surrounding country.)

But this condition of dry weather cannot go on much longer, or all crops, too, will be cut short. I believe as soon as we have plenty of rain, as in former years, until the ground is thoroughly soaked, we will have honey-producing flowers and good honey-flows. What we need is courage to hold on to our bees, and not let them run out or dwindle down to poor colonies, as it is less expense to take care of good colonies than it is to care for poor ones; and then if there is any honey, the good colonies will be sure to hunt it up. We need to learn how to keep bees in good condition *at all times*. It is not safe to weaken one colony to build up others, or to let bees swarm more than once; often, then, it is the most profitable to put the swarm back, and only take away one or two combs of brood, so as not to greatly weaken the colony, using the brood to build up other colonies that may not be in the best of condition. If we let our colonies become weakened, they so often do not become strong enough to fill their hives for winter; in that case the colony itself is too weak to winter well, and we have to resort to fall feeding, which all bee-keepers ought to dread, as it takes the poetry out of bee-keeping, and the money out of the purse, especially if we didn't have a honey-flow in the forepart of the season.

Roseville, Ill., March 23.



Some Subjects Reviewed and Commented Upon

BY DR. C. C. MILLER.

GOING INTO HIVES.—I confess to some degree of surprise on finding, by reading page 212, that Mr. Hutchinson describes exactly the kind and amount of handling that my bees get in the spring—seeing that they have a good queen and plenty of stores, and taking brood from weaklings to strengthen others. The only modification—and perhaps he does the same thing—is that the brood taken from the weaklings is given to those that are fairly strong but not quite up to the mark, and that I see that every queen is clipped. Now if I am not mistaken he has very lately written something to the effect that it is not necessary to take the honey-boards off hives more than once in three years. Mr. Hutchinson, will you please arise and explain?

AMALGAMATION.—I'm not so set on amalgamation that all the light will go out of my life if it is not accomplished. And if a majority of the members of the Bee-Keepers' Union vote against it I shall be quite satisfied. As a member of the Union from the first, and as one of its officers, I am anxious for its continued success, and on that account in favor of amalgamation.

On page 221, Wm. L. Backensto thinks the combination of business with pleasure will not be the same here as in Germany, because government controls things there and anything against the interest of bee-keepers is promptly brought to punishment, "while over here hell-hounds can do these things [or attempt to, at least] and escape punishment." My reading has not brought me to any such view. Very much complaint is made in the German bee-journals as to adulteration of honey, and adulteration of beeswax is probably carried there to an extent that has never been dreamed of in this country. Adulterated foundation is so common that the advice is given for each one to own his own press so as to be safe from adulteration, and more than 7,000 Rietzsche presses are in use. Who is troubled with adulterated foundation in this country? If there has been any punishment for it in Germany it has escaped my attention. Only lately, adulterated beeswax, under the name of "trade-wax," is boldly advertised in Germany. If these things are to be taken as deciding the matter, I see no good reason why we cannot combine business with pleasure here as well as in Germany.

I think some of those who are so afraid of the corrupt influence of the North American know very little about what its meetings are for. They have never perhaps been present at such a meeting, and have an impression apparently that the chief, if not the only object, is pleasure. I very much doubt whether any one ever attended with pleasure as the chief object. The thing that brings bee-keepers together at these meetings is profit. You couldn't get a corporal's guard together if they didn't think they would learn something.

Mr. Backensto wants to know what benefit those outside the United States would have from membership in the Union. Just the same as those inside. Mr. Backensto seems not to know that the Union is no more limited in its membership than the North American, and if he will just take the trouble to look at its list of members he will see that it takes in Canadians as well as members in the States.

Like some others, Mr. Backensto persists in looking at things the wrong way, and in thinking that the only effort made is to increase the membership of the North American. On the other hand, will it not increase the membership of the Union if for the same dollar the additional advantage of membership in the North American, whether that be little or much, can be also had?

Mr. Backensto thinks that if nothing is hitched on to the Union, "it is bound to continue a grand success." Has Mr. Backensto not noticed that the Union is decreasing in numbers? It is with the hope that additional members will be gained, and thus make the Union larger, that I advocate amalgamation. Now what harm, Mr. Backensto, will the "hitching on" do? Suppose a man is ready to pay his dollar to join the Union, and you say to him, "We can now do a little better by you than heretofore, and when you've paid your dollar you will also be a member of the North American." Please give us the name of the man who will say in reply to that, "I want to join the Union, but if that also makes me a member of the North American I won't join the Union."

SWEET CLOVER HAY.—In "Personal Mention," page 223, it is said Wm. Stolley has 200 tons of sweet clover hay. I saw the statement from which I suppose that is taken, and if you will look closely, Mr. Editor, I think you will find that he has 200 tons of hay, leaving it uncertain what proportion of it is sweet clover. I wish you'd find out just how much sweet clover hay he has.—[Will Mr. Stolley kindly help us out about this?—ED.]

REARING QUEENS.—I've been much interested in reading the excellent report of what must have been an excellent convention—the Colorado one. I venture a few words to Mr. Alkin. On page 229, you say that if a colony has no brood at all except some fresh-laid eggs, "then you know there will be no building from old or advanced larvae." That seems entirely reasonable, but after some considerable experience working upon that theory and some careful observation, I am inclined to say that if you want to make sure of having some queens reared from well-advanced larvae, just leave a strong colony queenless with nothing in the line of brood, but eggs. At first I couldn't understand how it was that when I left nothing but eggs I got not only some excellent queens but a few that were very poor. Bees seem to have a tendency to start fresh cells on successive days, and a few days after starting the first queen-cells, if you will watch closely, I think you will find, as I did, that they start queen-cells later from larvae that had been advanced as workers. I'm wondering why you think transferring larvae is a thing only for experts. If you try it once I think you will see that a novice would have no trouble with it. But transferring eggs that you speak of, I should think would be a very different thing.

Since writing the above, I find Mr. Rauchfuss, farther on, made the same correction that I have, but it will do no harm to emphasize by repetition. Sometimes I have taken the trouble to destroy all the larvae that were not in queen-cells three days after hatching from the egg. That makes a pretty safe thing.

THAT ASSESSMENT.—On page 237, Rev. E. T. Abbott protests earnestly against a clause in the New Constitution providing for an assessment. Right you are, Mr. Abbott, and with such a clause I'm sure you're not the only one who will simply stay out. Such a thing has never been practiced or needed in the Union in the past, and why should it be in the future?

Marengo, Ill.



An Interesting Beginning—Numbering Hives.

BY L. G. CASH.

It may be remembered that I am the crank who took the bee-fever over a year ago, while attending a Farmers' Institute where Mr. E. T. Abbott gave a bee-lecture. It may also be remembered that I rushed into bees rather stronger than Mr. Abbott thought wise, as I was a green hand at the business. Well, here's my experience:

To start with, I bought and traded for 33 colonies of black and hybrid bees in every conceivable shape except in improved hives. There were six or eight log-gums, one or two

cracker-boxes, five in *moth-proof box-hives* that were not quite as good as the gums, and the rest were a job-lot mixture. Some of the colonies were about to starve, and I fed them during warm days in December.

I got a supply of 8-frame dovetailed hives in the flat, and during the winter and early spring I put them in shape and painted them. I procured a copy of "Langstroth on the Honey-Bee," "A B C of Bee-Culture," "Bees and Honey," and "Amateur Bee-Keeper," and took the "old reliable" American Bee Journal.

When spring came I got a little impatient, and transferred one colony one warm afternoon; two days later they were gone—probably robbed. I then waited until fruit-bloom, and tried again with better success. I transferred all of them, putting them back on the same stands. After I got my hand in, and my nerve up, I could take an old gum or box-hive from a stand, take it to the honey-house, break it open, take all brood and straight comb, fasten it in frames, drive in the bees, and have it back on the stand again, and all in 40 minutes. Out of my 33 colonies I saved 27, spring count.

I then sent South for six Italian queens. The first two were lost in introducing, the shipping-cages being the old style, and not self-introducing. I left the cages in two or three days, then opened them up and let the queens out, but the bees were mad, and made short work of them. The balance were in proper cages, but did not arrive until so late that it delayed my Italianizing, so I only got about half of them Italianized.

I had but few early swarms, and the late ones I put back into the same hive after cutting out all queen-cells. My bees gathered some honey in June, but very little at any other time. May was a little too showery, and the latter part of the summer and fall were too dry.

I got only about 500 pounds of comb honey, and had to feed about 200 pounds of sugar in the fall. One or two colonies stored about 50 pounds each in one-pound sections, and then I had to feed them in the fall.

Cider-mills, cane-mills, and fruit rotting in the orchards played hob with bees in this section of country, and they went into winter quarters very weak in numbers, and with but little honey. Had I known what I do now regarding the season, I should have taken off the supers early in August, and fed a little to stimulate breeding, regardless of the extra amount of sugar necessary for wintering.

I began the winter with 31 colonies, and hoped to come out in the spring with about the same as I started in with, spring count. They were wintered on the summer stands, with one of Mr. Abbott's sugar-loaves over each colony, that covered with cloth, and the balance of the super packed with old cloths, carpet, straw, or anything that would hold heat and absorb moisture. If we had any warm, sunshiny days in winter or early spring, I expected to take the covers off the hives and allow the packing in the supers to dry as much as possible, without disturbing the bees.

METHOD OF NUMBERING HIVES.

My method of numbering hives is to take the nicest, smoothest pieces of broken sections, paint them dark red, then numbers in yellow. I use patterns of the numbers cut out of oil-pasteboard. Little girls or boys make splendid painters at such work, and it keeps them out of mischief during the long winter evenings.

I fasten the numbers on front of the hives, with four small wire-nails ($\frac{1}{8}$ inch nails are about the right size), and they can be easily removed by slipping a knife blade under and prying it off.

I have a small blank book which I carry in my pocket, and keep a record of each hive on a separate page, which helps me to select queen-cells from the best colonies, etc.; also to keep a record of the amount of honey taken from each colony, which enables me to place a proper value on any colony I may sell. In fact, I keep a record of almost everything connected with the work—things needed for the future as well as what has been done in the past.

I leave the numbers on the hives. Although they get mixed up promiscuously in the yard, I can generally tell where any certain number is without hunting. Of course, if I had a large apiary I could not do so.

Russellville, Mo.



The McEvoy Foul Brood Treatment is given in Dr. Howard's pamphlet on "Foul Brood; Its Natural History and Rational Treatment." It is the latest publication on the subject, and should be in the hands of every bee-keeper. Price, 25 cents; or clubbed with the Bee Journal for one year—both for \$1.10.

PRESERVATION OF COMB AND RENDERING OF WAX.

BY HON. R. L. TAYLOR,
Superintendent of the Michigan Experiment Apiary.

(Continued from page 245.)

After the preservation of all comb that promises to be of value as such, there will remain, as intimated at the outset, comb of different descriptions that is of value only for the wax it contains, and still of far too much value for that to excuse its neglect or loss. Conveniences should always be at hand in every apiary for the collection and preservation of all bits that may be trimmed from combs, frames or honey-boards. Such pieces are especially valuable for they are composed almost entirely of wax, and the rendering of them is easy. These and all other comb to be rendered should be kept away from moisture and light until that operation can conveniently be attended to.

The rendering of brace and burr combs, and of other comb in which no brood has been reared, since they contain nothing to prevent the wax readily separating from the residue, is a comparatively simple matter, but with that of a comb full of cocoons and bee-bread the case is different, and yet, when the proper course is understood, one knows what to expect, and the operation is not a trying one. For that class of comb from which cocoons are absent, almost any method (except the one often recommended, of tying it up in a bag and then boiling it to make the wax exude from the bag) will answer tolerably well. If one is already provided with an ordinary wax-extractor or with a solar wax-extractor it may well be used, but if I were without both I should hardly be to the expense necessary to procure either. At best, the solar extractor is cumbersome, can be used only about two months in the year, and is of no practical utility in rendering comb containing cocoons. As to the ordinary wax-extractor, the best I can say for it after testing it thoroughly for 10 years or more, is that it does tolerably well what can be done much more quickly and easily with an open vessel.

In the absence of extractors, if the comb to be rendered consists entirely of that without cocoons, it may be put on the stove in almost any kind of a vessel that will stand fire, one of tin or copper being preferable to one of iron, on account of the dark color which the latter imparts to the wax, and brought to a "boil," of course, putting in plenty of water before placing the vessel over the fire. When the wax is all thoroughly melted, let it cool, either upon the stove or in as warm a place as possible off the stove. When the wax is cold it may be lifted off almost free of foreign matter, and afterwards treated by a further process described later to fit it for market.

Everyone who has anything to do with the heating of wax on a stove should be thoroughly impressed with the fact that without unflagging watchfulness the operation is attended with a good deal of danger. Boiling wax is very liable to boil over, in which case it runs at once into the fire-box, takes fire, and almost at once the stove is a mass of flames, and, of course, unless prompt preventive measures are taken, the wax boils over faster and faster, and the house itself runs an extreme risk of destruction. Only a cool, careful person should have charge of such work, and he should never be out of sight of wax boiling, or likely to boil, at least, not until he so thoroughly understands the details of the process that he knows what, within the possibilities, may happen while he is gone. Boiling wax may be kept from running over in most cases by lifting it with a dipper and pouring it back from a little height, but to meet all emergencies adequately, plenty of cold water should always be at hand, with a dipper. Boiling wax is easily controlled by adding cold water.

For the rendering of combs containing cocoons, and that without cocoons need not be excluded, I think after trying every imaginable method, except that by the use of steam from a boiler, that there is no process for the average bee-keeper equal to that which I now use. It is as follows:

I provide myself with utensils—a rendering-tank or kettle, a perforated-tin vessel, such as is used inside the ordinary wax-extractor, and a tin scoop, such as is used by grocers for the purpose of handling sugar, etc. For the first I use a circular tin vessel, 20 inches in height and 24 inches in diameter, which is as large as the top of the stove I use in my honey-house will accommodate, but neither the shape nor size is material, except so far as the amount of work to be done requires. An old wash-boiler would answer well enough for most apiaries. The utensil of perforated tin is eight inches high and ten in diameter. The scoop I use would hold about a pint, but its very important characteristic is its sharp edge at the mouth, of one thickness of unfolded tin.

When ready for the operation, I place the tank, about one-quarter full of water, on the stove in which I make a good

fire, which, of course, is to be kept up as the necessities of the case may require. More water may be put into the tank at the start if the combs have not been prepared by soaking in water, which it is better to do, as that tends to prevent the cocoons taking up and retaining the wax. I think it is an advantage, also, to crumble the combs quite finely, which may be done readily if they have been stored where the temperature is quite low. The comb is then put into the tank, which will accommodate that from about 100 Langstroth frames, or 170 Heddon frames. When the contents of the tank boil, and the wax is all thoroughly melted, it will be found that there is room in the tank for considerable more water. This is now added to the extent of about a pail full, which must be cold and handled with a dipper so that it may be done gently and somewhat gradually.

At this point the boiling has ceased and the surface of the lately boiling comb somewhat hardened, so that it retains a considerable part of the added water on the surface. Now I watch it, keeping up a moderate fire. In a few minutes the pure wax is seen oozing through the crust and floating away on the water. More water is added now in sufficient quantities to make the rising wax harden so that it may be removed with the hand. This is not a very material part of the operation, but it is utilized because in any case the water must be added. During the adding of the water, which must be to the convenient capacity of the tank, with a little care, about half the wax the comb contains may be removed in this way in an almost pure condition.

When sufficient water has at length been added, I let the whole come again to the boiling-point. Then I put the perforated vessel into the mass at the point where the wax appears to be gathering largely, turning it about and working it down until it contains a few inches in depth of the liquid, or I put a weight upon it and let it settle and stand a few minutes for the wax to gather, then, with the scoop, which must be of a size to work freely inside the perforated-tin can, I dip off the melted wax from the liquid. This is best done by settling the back end of the scoop and letting the surface wax run in over the sharp edge in front, which is depressed so as to get the wax without too much of the water, which is dark, while the wax is transparent. The perforated can is operated in this way in five or six different places more or less according to circumstances when most of the wax will have been removed. There is generally no particular object in working it too closely, for, at best, there will be a little of the wax that cannot well be removed.

I now let the mass get cold, when the crust of the "basse" will be found to contain the wax which remains. This is carefully removed and laid aside, to be added to the next "batch" at about the time it first comes to the boiling-point. This process is repeated until all the comb is reduced. A cover is provided for the tank and put in use whenever desirable.

After this is all accomplished comes the final process for clarifying the wax from the remaining impurities. For this purpose a smaller melting vessel is desirable. I make use of an old wash-boiler. I place the boiler, about half full of water, over the fire and add the wax, or as much thereof as I safely can, and let it melt and boil. Now, while it is very desirable not to let wax boil more than is necessary, on account of the injury done it thereby, yet some boiling is necessary in order to put the impurities in such condition that they will readily settle below the wax. The proper stage is known from the transparency of the wax which may be discovered by lifting a little from time to time in the scoop. When the wax thus raised is clear, I let the fire go down and out. In the meantime the room is made as hot as possible and kept so.

The wax is left on the stove and sometimes the vessel containing it is wrapped and covered with several thicknesses of paper. All this for the purpose of retaining the heat so that the wax may be in a liquid state as long as possible to give the impurities plenty of time to settle into the water below. On the same account I am careful not to agitate the wax in any way. If proper care has been taken the wax will remain liquid for several hours, but of course the length of time will vary according to the amount of wax, the size of the vessel and the warmth of the room.

When the temperature of the wax falls to about 155°, or, in case no thermometer is at hand, when the first signs of its beginning to harden at the edges appear, I am prepared with the milk-pans to receive it and with the scoop to dip the wax. This is done with care, that the refuse below may not be unnecessarily disturbed, and yet, with speed, that the now rapidly falling temperature of the wax may not interfere with the completion of the work. All but from half an inch in depth of the wax may be dipped without greatly disturbing the settings, and when it is seen that any of them adhere to the

scoop, the dipping is stopped and the rest of the wax is left to harden where it is, when it is lifted out in a cake, and what little refuse adheres to the lower side may be readily scraped off and the whole batch be in good condition for market.

In this process the skimming off of such impurities as rise to the surface just as the wax begins to boil should be attended to.

If the course indicated be familiarized and practiced, it is confidently believed that the rendering of wax will no longer be considered a difficult or a disagreeable operation.—Review.

Lapeer, Mich.



Sizes and Kinds of Hives—Non-Swarming Bees

BY E. S. LOVESY.

As so much has been written on the swarming *vs.* non-swarming topic, and also the best kind or size of hive to insure success, I presume many bee-keepers think what few good points obtainable, that would be of material benefit, have been already threshed out, so that there is little besides chaff left. One thing is certain, if all the good points on those questions have been brought out, many of our bee-keepers have not practically utilized them. Many have tried, or practiced, a little on an improved hive, or on the non-swarming system, with a determination not to approve or believe in it unless they are compelled to do so. It is useless to expect success from any experiment unless it is followed up with thorough tests. If this is done with a determination to develop all the good points, the result will be a success, or proof that success is not obtainable. But some bee-keepers will experiment with one or two colonies of bees to try the non-swarming method, or to test some new hive, or one different from what they have been using, then if they don't succeed they jump at the conclusion that there is nothing in it, when, in fact, this would be no test at all of the merits of any hive or any system of management. Of course, we are all aware that location, or the amount of honey-flow, cuts a big figure in experiments of this kind; in fact, this is more or less correct in experiments of any kind.

Some bee-keepers here, the past season, tried what is called the Ferguson pattern of the Langstroth hive. A few bee-keepers got one or two just to try them, and when they happened to be located in the center of large lucern fields, as a rule they were a success, while others not so favorably located were not so favorably impressed.

Now, as to the merits of different hives: Having used nearly all the different styles of hives in general use for the past ten years, I have about arrived at the conclusion that the best all-purpose hive, or the one that pays me the best, is the 10-frame Langstroth. The 8-frame is all right for comb honey, because in running for comb honey the bees keep the brood-chamber pretty well filled with honey, but in running for extracted honey with a two or three story hive, the queen often fills the bottom story so full of brood that there is not enough honey to winter on, and my bees winter best in a one-story hive.

I prefer the 10-frame for an all-purpose hive, and when I get a three-story 10-frame Langstroth hive with 40,000 to 50,000 bees in it, run on the non-swarming method, then I have a colony of bees that pays. They give me greater returns for the amount of money invested than anything else would give for a like amount invested. When I went down to St. Louis and the World's Fair, three years ago, the profits from two of my best colonies paid my entire expenses for the trip.

A PHENOMENAL COLONY OF BEES.

The following is a record of my best colony the past season: They filled up their hive with bees earlier than most of the others, so I took out three frames of brood from them twice, which I put into empty hives; these I filled up with frames of honey and foundation, then I moved two other strong colonies and put the two new hives in their place; the bees returning from the field filled them. In a few days the old colony, A, was teeming over with bees again. I then took three other frames of brood as before, but I also moved the old colony A, and let them furnish the bees to make colony B, but in order not to weaken them too much, and as I owed them six frames of brood that, as I have stated, I took from them in the beginning, I gave them three frames of brood from another hive. A little later I repeated the operation, giving them back the other three frames, but this time I divided them about 11 o'clock, and got an overflow swarm; that is, I again moved the old colony A as before, and they filled the new hive C full. Of course, the bees in hive C started queen-cells, but on the fourth day I put in a queen-cell that

was about ready to hatch. The queen hatched out all right, but the bees would not let her tear down the cells that they were building, so she swarmed out, taking about half of the bees with her, thus forming swarm D.

Later I divided the old colony A, taking out enough brood and bees to make swarm E; this swarm I exhibited at our County Fair, showing the process of building queen-cells.

Still later (June 29) the old queen A had the hive full of bees and 14 frames of brood. I then took a new hive and put in it three frames of brood from swarm C; this I put on the old stand A, and I shook the old queen and all her bees into it. I then divided the 14 frames of brood belonging to the old queen, putting them into two new hives, and set them on the stands of B and D, letting those swarms furnish bees to the hatching brood, and forming colonies F and G. Now I have seven good, strong colonies of bees, and all of them built up entirely from the old colony A and her increase. I have taken a little over 500 pounds of honey from those seven hives, the old colony A furnishing more than double the amount of any of the others, and each of them gathered enough honey to winter on. Now, if any of our bee-keepers can beat this, or come near to it by natural swarming, they can do more than I can.

For the past three years I have tried a few colonies on the natural-swarming plan, with very unsatisfactory results. Some of the new swarms do very well, but some of the old colonies do very little, and they never average half as much any season as the non-swarmers.

I have practiced the non-swarming system 11 years without a single failure. I mean that the results each year have been satisfactory financially. Of course, we all have a few colonies every year that don't build up or do much. This seems to be one of the questions that we cannot account for. I generally requeen those poor ones by, or before, the last of June, with good results, as a rule.

To make a success of dividing or non-swarming, requires some practice. By the non-swarming system we can rear all our queens from the very best stock. It will be seen that in every instance I have reared all the new queens from the old queen A, besides many others for other new swarms. This old queen is three years old, and they have never built a queen-cell in the old colony. Those bees are leather-colored and 4-banded. I have many others as good as those, and none of them ever swarm, as long as they have room or empty space in the hive. I divide as early as it is practicable, then I strengthen them up and give them room.

In running for comb honey, I find the Ferguson-Langstroth hive, as a rule, easy to get the bees up into the sections before they get too crowded in the brood-chamber. When I want to get the bees into the sections, I smoke them up late in the afternoon, and close the slides from 12 to 24 hours, or until I get them working in the sections.

THE 10-FRAME LANGSTROTH HIVE.

There are some points in favor of the old standard 10-frame Langstroth hive:

First, it is a good winter hive, holding sufficient stores to last the bees through the winter, and if they are properly packed and ventilated, they will come through all right. In running for comb honey the hive is the right length, breadth and depth to hold 56 sections. I know of no hive with the boxes and frames all of the same size and shape, and that is so well adapted for comb honey as the Langstroth, and if we run out of sections, or if we wish to change and run for extracted honey, the frames and hives will fit as they may be desired; and if we have strong colonies and a good honey-flow it is the best adapted and the best paying hive to run three stories. A deeper hive would not be practicable, and if we use loose bottom-boards we can divide quickly, or have the brood and honey in any part of the hive that we may desire.

BENEFITS OF COMB FOUNDATION.

One reason why my bees always pay well, is because I use considerable foundation. I never put an empty frame into a hive. Too many of our bee-keepers do this, but to tell the truth I do not know but that a bee-keeper that never uses foundation should be called a "bee-owner" instead of a "bee-keeper." A long article could be written on the benefits of foundation to bee-keepers. It not only causes the bees to build straight combs, but by a liberal use of foundation the bees will never crowd out the queen, for she will always have room to lay eggs. If we take two colonies of equal strength, and use foundation on one and none on the other, the one having the foundation will gather more than twice as much honey as the other in the same time, as from 2,000 to 3,000 bees can work on a sheet of foundation easier than 200 can work on a bare top-bar.

Salt Lake City, Utah.

POISONOUS HONEY—DO BEES GATHER IT?

"APIS VIRUM" IN ALL HONEY.

Novice desires the readers of the Bee Journal, who keeps bees where mountain laurel grows, to speak as to the wholesomeness of honey gathered from it. He gives a very good description of mountain laurel as it grows hereabouts. It grows in great abundance on the mountains of Pennsylvania; and the bees work some on it, but not enough to get much surplus from it. I believe the honey has never been known to injure any one here, nor does it seem to have any deleterious effect on the bees. The leaves of the shrub are generally conceded to be poisonous. I never knew cows to eat it here, but sheep, left to their own resources too early in the spring, have been known to eat it, and it generally resulted in giving the owner a job of picking the wool off their dead carcasses, too. The blossoms are generally considered to be harmless. The boys, living near enough, gather and sell great quantities of them to the city folks, and I have never heard of any one being poisoned by them.

Like Novice, I, too, am somewhat skeptical about poisonous honey. I would like to see some of the so-called poisonous honey sent to a chemist for a chemical analysis. I have known horses to be made very sick by being turned into a nice field of clover, and have heard of them even dying from the same cause, but that would not warrant any one in saying that green clover was poisonous. The danger was in the eating to excess of feed to which they were not accustomed.

As a matter of fact, there is more or less poison in all honey, as in nearly everything else we eat. The mite of poison that the Author of Nature has compounded with the various things we eat, is as necessary and indispensable to our well-being as any of their other properties. All honey contains more or less *Apis virum*, which, as a drug, is a powerful and deadly poison. If we consider the very small amount of this poison that is injected into the body by the sting of a bee, and note the effect on those that are not used to being stung, we may have an idea how powerful this poison really is.

When I first began keeping bees, a sting within two or three inches of the eye was sufficient to nearly close it, and the effect would last for a day or two, but now I am so inoculated with this poison that it has little or no effect. In those days, too, if I ate honey with any degree of excess, a violent pain in my stomach was sure to follow. This, too, passed gradually away on becoming used to honey. Now, if I had not been interested in bees, and had bought honey of uncertain source, and had been seized with violent cramps in the stomach shortly after eating it, I might well have been excused for saying and thinking that the honey was poisonous. It is owing to the presence of *Apis virum* in honey that so many people are benefited by its use.

The *Apis virum* makes honey really a medicine for several diseases. If more honey was used there would be less backache and kidney trouble; so says Dr. J. M. Wallace, late of Cleveland, Ohio, but now of this city, for whom I have extracted considerable *Apis virum*. He says it is one of the most potent of drugs in the treatment of kidney diseases and Bright's disease, and many others. He says that the virtue of *Apis virum* is becoming better known and appreciated by the medical fraternity, day by day, and that it will be used in much larger quantities in the future than heretofore.

I collected and sold considerable *Apis virum* last season, and have two orders standing now to be filled as soon as possible. I intend to try to work up an extensive trade in *Apis virum*. I have invented a device for extracting it from the bees without injuring them, and by which I can extract as much in one hour as a small army can do with tweezers. If the readers of the Bee Journal are interested, and want to know more about this department of bee-culture, I will describe it more fully some other time.

ED. JOLLEY.

Franklin, Pa.

[Yes, we all want to know how you manage to make the "tail" end of the bee more profitable than its tongue end. But, then, why shouldn't the "business end" be all that its name implies?—ED.]

POISONOUS HONEY FROM IVY.

In reference to the article on page 146, about poisonous honey, I can't agree with Novice. Why? Because I know that bees do collect honey and store surplus from ivy. Why do I call it ivy? Because I want to make a distinction between what we call mountain laurel and ivy—the bush that bees collect poisonous honey from.

I would not have written this if it had not been called for, but bee-men ought not to sell such honey in any form what-

ever, because it is as sure to make a man sick as he eats it. The honey in its purity is as clear as spring water, but its taste, when examined closely, will tell a man there is something wrong. It has a strong, bitter taste, which makes it disagreeable.

The symptoms of the poisoning are a sickness in the stomach, a coldness in the top of the head, with cold and hot flashes in the face, and a general stupor; the sight becomes dim, the skin on the hands, by rubbing, seems to be dead, with a tingling sensation. I want to say right here that this poisoning is not dangerous in the least—it makes a man vomit well and freely, and when that is said all is said. This sickness doesn't last longer than an hour.

The plant is well described in Novice's article, but we mountain people don't call it "laurel." We have laurel, but it is entirely different in its blooming from ivy, as laurel forms balls one year for its blooming the next, and ivy blooms on the new growth each year. I have never seen honey-bees working on laurel bloom.

The ivy doesn't secrete nectar every year, nor does it every other year, but say once in ten years, and you will be close onto it. We don't have ivy here limited to 40 acres, but have it by the 1,000 acres.

I am not writing this to get up a controversy, but if any reader disputes this, I will send him a sample in the comb, if he will send me the cost of something to ship it in, and then pay the express charges; and if he will eat it, and it doesn't make him think he is trying throw up his socks-heels, I will pay back all charges.

My bees are all wintering on this poisonous honey now. We had a general flow of it last year. I extracted some 300 or 400 pounds of it, and just quit, knowing I did not want it, and knew that the bees would need it this winter.

Mr. A. I. Root, in his "A B C of Bee-Culture," is correct. If he had come out plain, and said it was a fact, he would have been correct.

Novice, in his second paragraph, seems to be solid in his opinion, and it may be true that ivy, in his place, doesn't secrete nectar, but I know it does here along the mountains of East Tennessee, but not often.

In his third paragraph he says he doesn't know whether there are two varieties or not, and that cows will eat the leaves. That is correct, and it will poison them, too. I will say at a venture, there are two varieties, but we call your mountain laurel, "ivy," and have a "laurel" which is entirely different, only they are both evergreens.

I don't want any one to believe a lie, and if any one doubts my statements, I will refer to Sam Wilson and R. A. Shultz, both of Crosby, Tenn. I will also send samples of honey as above stated.

W.M. WEBB.

Sutton, Tenn., March 12.

PARTICULARS OF THE CASE OF HONEY-POISONING.

On page 825 (1895), under the heading of "Honey from Mountain Laurel," appears an item that I have anxiously hoped would be thoroughly discussed by some of our bright lights in bee-lore, as I think it one of vital importance to the honey-producer, especially in this section where the case occurred. It makes no difference to me at present, as I am only "in it" to have something to draw my mind from the cares and worries of office work, but in my dozen or more of hives I find a real enjoyment, that I can get nowhere else, and which I find very beneficial. But I could not let go unnoticed the harsh and unreasonable things said by the ignorant about the bees and their product. But I fear it has had a bad effect on the honey-business in this locality, almost every one being afraid to use it unless they know it to be all right.

I am personally acquainted with Mr. Chambers, and I can assure you that the case is not overdrawn by the imagination of any one, as you will see from the enclosed letter from Dr. Elmer, the attending physician, which gives a clear statement of the case. I also send a clipping from the daily paper containing the report of Dr. Wormley, who analyzed a portion of the box of honey used, and if you can get any satisfaction as to just what kind of poison he found, I cannot; he claims to have found it in the solid part. Now that means the comb. Have we any record of the bees making poisonous comb? He found none in the honey proper; then how could it come from "mountain laurel?"

The honey came from Prof. A. J. Rider's cranberry farm—perhaps he could tell of some treatment the comb had been put to, to preserve it from the previous season. Strange to say, this is the only case. I tried to get a sample, but none would they let go. A dollar a box would get none. Had I obtained a sample, I should have forwarded it to Prof. Cook.

I may be wrong, but I do not "go much" on that analysis

as made by Dr. Wormley. I do not think him practical enough to analyze honey so as to do justice to the bees. Do any of our bee-keepers know of similar cases? If so, let us have it talked over; it will be of far more benefit than to know whether there will be non-swarming bees, or some other things that are sometimes discussed in our papers.

Trenton, N. J.

GEO. B. HURLEY.

[The letter from Dr. Elmer, referred to by Mr. Hurley in the foregoing, reads as follows:—ED.]

MR. GEO. B. HURLEY—*My Dear Sir*:—In reply to your request for the symptoms of the poisoning by honey in the cases of Mr. and Mrs. John S. Chambers, as alluded to in the American Bee Journal of Dec. 26, 1895, I would make the following statement:

They were the only two persons who partook of the honey. All the rest of the family, and the servants, ate of each of the other articles served at breakfast, and were not in the least affected. Mr. and Mrs. Chambers took but a small quantity, yet each noticed a peculiar, pungent taste in the comb as soon as it passed their lips. In 15 or 20 minutes afterward, Mrs. C. was taken with nausea, abdominal pain and vomiting, soon followed by loss of consciousness, coldness of extremities, feebly acting heart, and complete collapse. While ministering to her, Mr. Chambers, who had also experienced the initiatory symptoms of pain and nausea, suddenly exclaimed, "I cannot see!" and soon sank in a state of syncope to the floor.

In each case the symptoms were then similar. Retching, vomiting, purging, acute gastric and abdominal pains and cramps continued for some hours, with surface coldness, deadly pallor, delirium, and the general symptoms of collapse. No pulse could be detected at Mr. C.'s wrists for two hours, and the heart-sounds were extremely feeble and irregular—as they were also in Mrs. C., though her pulse was not entirely lost, yet for an hour or more was scarcely discernible.

By the aid of restoratives, consciousness returned to Mrs. C. in about three hours, but the husband was not fully himself for 19 hours—until 4 o'clock the next morning—and had no recollection of anything that transpired in the interim, although he had at times conversed with the nurse and myself during the afternoon and night.

The treatment consisted of brandy and hot drinks, swappings, and external applications of heat, hypodermatic injections of morphia for pain—and of digitaline, until reaction was assured; then rest, quiet, and a general supporting plan was adopted.

Recovery took place gradually, and without any eventful symptoms, though the restoration to strength was very slow.

An analysis of the remaining honey was made by Theo. G. Wormley—Professor of Chemistry in the University of Pennsylvania—who states:

"Several experiments upon dogs, made in connection with Prof. Reichert, have shown that the honey contains a most prompt and potent poison, producing within a few minutes violent vomiting, followed by purging, great prostration, convulsions, coma and death within a few hours. It would appear that the poison is present chiefly in the solid portions of the honey."

"The symptoms showed in your cases very strongly resembled those observed in several reported cases of honey poisoning, in which the poisoning was attributed to honey collected from the *Kalmia latifolia* or Mountain laurel, which, I understand, is very abundant in your State. Although the plant has long been known to possess poisonous properties, yet repeated examinations, by different chemists, have thus far failed to separate the poisonous principle, or determine its chemical properties.

"It may be some relief to the family to know that the poison was a substance inherent in the honey, and not to a substance added thereto maliciously or by accident. From my personal interest in the matter, I will continue the examination of the honey, and make every endeavor to separate the poisonous principle."

Trusting that this brief account may be of some service to you, I remain,

Trenton, N. J., Jan. 15, 1896.

Yours very truly,
W. ELMER.

[We wish to thank Mr. Hurley, and also Dr. Elmer, for their excellent letters. They are particularly interesting, as they come direct from the place where the honey-poisoning occurred, that has stirred up all the discussion on the subject which has appeared lately in the Bee Journal. We hardly think that the instances of poisoning from eating honey are sufficiently numerous, or serve to cause any great uneasiness among producers or consumers of this delicious sweet. At any rate, if the supposed poison was found only in the honey-comb, it will cause more extracted honey to be eaten.—ED.]

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Time to Advertise.—We have often been surprised that more of those who have bees, queens and bee-supplies to sell, do not patronize the advertising columns of the bee-papers. The next two or three months is just the time to let bee-keepers know what you have to offer them. Better get your advertisement going at once, and thus capture your share of the trade. The dealers who do the business, always advertise. If you would do likewise, be sure to let bee-keepers know what you have to sell, and where they can get it. We can make room for a few more reliable dealers in our advertising columns. Give it a trial now.

The Michigan State Convention.—We received the following notice too late to appear in last week's Bee Journal, and though it may not do much good to give it now, we do so for it may be in time for some to go the second day of the meeting :

The illness of the President, and of the Secretary's daughter, has caused the holding of the Michigan State Bee-Keepers' Convention to be postponed. It has now been decided to hold it April 23 and 24, in Lansing, at the Van Dyne House, 411 South Washington Ave. Rates only \$1.00 per day. Street cars pass the door. The first session will be held on the evening of April 23.

The Hon. R. L. Taylor will talk about "Lessons in Wintering." James Heddon, who is just home from Florida, has been asked to tell us about bee-keeping in that "land of flowers." L. A. Aspinwall, of Jackson, will have an essay on "The Requisites of Success in Bee-Keeping." The Hon. Geo. E. Hilton has chosen for his subect, "The Crisis in Michigan Bee-Keeping." Dr. L. C. Whiting, of Saginaw, will have an essay showing that "Bee-Keepers Must Follow the Wild Flowers." Mr. T. F. Bingham will also have an essay on "Horizontal Prices." W. Z. HUTCHINSON, Sec. Flint, Mich.

We understand that there is no saloon in connection with the hotel where the convention is to be held. That's good. We believe in patronizing that kind of a place whenever possible. The idea that a hotel must have a saloon attachment is the sheerest nonsense; and is no credit to those who demand it; for the saloon would not be there were it not patronized. We are glad to believe that bee-keepers above all others have no use for the saloon—that modern abomination that does

more to destroy the home and all that is pure and good in manhood and womanhood than all the other curses known to this world. But the verdict has been given—*The saloon must go!*

Commission Charges.—In the April Progressive Bee-Keeper, Mr. W. H. Pridgen, of Creek, N. C., has a criticism entitled, "Exorbitant Charges," in which he rather "goes for" almost all kinds of dealers, and also refers to our statement, made some time ago, when we said that we thought it all right for commission men to charge 10 per cent. for handling a small lot of honey (under \$100), and a less per cent. (say 5) for selling over \$100 worth. Mr. Pridgen thinks the commission should be the same, whether small or large lots, say 5 per cent. At least he says:

"I know enough about the commission business to know that the commission should be the same per cent. regardless of amount, while freight and cartage is a different thing."

Of course there's no law against Mr. Pridgen thinking he is correct, but if he should do business in Chicago awhile, we think he would change his opinion. Commission men have told us that often it is more work to dispose of a small lot of honey than a whole carload. One reason is, that there is seldom any uniformity in quality of honey or style of package among a number of small lots of honey, and so perhaps such must await a purchaser who wants but a little honey, or one who is not particular as to what he buys. Think of a commission man who pays \$100 a month for rent alone, fooling away his time on a 5 per cent. commission of a \$10 lot of honey that has had to take its chances in finding a purchaser! Life is too short, and it costs too much to live in any city, to do business in that way.

To Illinois Bee-Keepers Only.—The Secretary of the Illinois State Bee-Keepers' Association has sent us the following notice, which he wishes all bee-keepers in this State to read:

At the annual meeting of the Illinois State Bee-Keepers' Association, held in the State House at Springfield, Nov. 19-20, 1895, it was resolved to make an earnest effort to increase the membership and extend the influence of the organization.

In order to enlist the co-operation of bee-keepers, it was arranged to present each member with a year's subscription to the American Bee Journal, which was adopted as the Official Organ of the Association.

In addition to said annual subscription, members will be furnished with a copy of the Second Annual Report of the Illinois State Bee-Keepers' Association, which is a large and attractive volume containing a vast amount of useful information to bee-keepers.

The Illinois State Bee-Keepers' Association is composed of able and experienced apiculturists, second to none in their general information in all matters pertaining to bee-keeping, and said parties have resolved to keep the Association in the front rank among similar organizations in other States.

On the receipt of \$1.00, by the Secretary, he will take great pleasure in enrolling your name as a member of the Association for one year, and will see that the Bee Journal and Report referred to above, are sent you, with any other matter of general interest that may be sent out by the Association.

If already a subscriber to American Bee Journal, one year will be added, from date of expiration of your subscription.

Yours truly, JAS. A. STONE, Sec.

Bradfordton, Ill.

We hope that not only those who are now subscribers to the Bee Journal in this State will respond to the foregoing notice, but that they will tell their neighbor bee-keepers about it, and try to have them also become members of our State Association. There is now no reason why Illinois should not lead in the matter of membership, at least. Encourage our good Secretary Stone, by complying with his generous request.

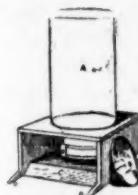
See "Bee-keeper's Guide" offer on page 271.

Spring Feeding of Bees.—In Gleanings for April 1, we find the following on "Spring feeding *a la* Boardman; how to get all the honey of the fields into surplus:"

In the first place, the syrup should be made by mixing sugar and water in equal proportions. You can use heat to dissolve the sugar if you prefer, but I do not think it is necessary. Pour the sugar and water, equal parts, into an extractor-can, and turn vigorously for a few minutes. (If you haven't an extractor, use a tub and a stick.) In half an hour or so you will find a clear limpid syrup ready to draw off from the honey-gate of the extractor into those glass jars of the Boardman feeder.

I believe it is unnecessary to explain this feeder, which I believe is the best adapted for this kind of feeding. It permits of the syrup being fed a little at a time, and when the feeders are empty they can be seen at a glance, without opening the hive or disturbing the bees. In almost a minute's time it is possible to tell what feeders are empty in an apiary of 75 or 100 colonies, just by glancing down the rows, and walking rapidly across one end of the yard. For spring feeding, at least, an entrance feeder, especially Boardman's, is altogether the best.

A great many ask if it is necessary to feed, providing the hive is fairly well supplied with stores. Not so necessary; but if you wish to carry out the Boardman idea as I understand it, it would be advisable to feed all the colonies. Those that have a good supply already will be stimulated by the feeding, and,



The Boardman Entrance Feeder.

as a consequence, commence rearing a lot of brood; and that means a host of young bees and a lot of honey later on in the season, if there is any to be had. Even if the bees are fairly well supplied with stores, they won't rear brood anything as they do when a fresh supply is coming in every day. Of course, the colonies that are well supplied do not require as much syrup as the others that are running short. But suppose the combs are stored and the brood-nest will permit no more. Such combs of sealed stores taken out and set aside will come in play for winter.

Perhaps you may argue, "What is the use of buying syrup to feed bees in the spring, when they have already enough to carry them through till the honey-flow?"

"Enough"—there's the point! If they have just barely enough, the bees will scrimp and economize in some way, to make their stores last; and the only way for them to economize is to cut down brood-rearing—very poor economy for you, certainly.

"But" you say, "if I feed the bees a little every day, the hives will be crammed full of syrup, and I shall be out of pocket to the extent of several barrels of sugar."

What of it? You will be a gainer in the end by having a large force of bees to gather the honey if it does come; and then when that time arrives, it will be shoved right into the supers, because there will be no room for it in the brood-nest. The honey from the fields will bring a higher price, and you have made a first-class trade—sugar for honey. More than all, your brood-combs will be filled with the very best of winter stores, and much cheaper. And suppose you are out of pocket several barrels of sugar. Suppose you have fed 1,000 lbs. of sugar syrup, costing you, say, 4 cts. per lb. (when ripened,) and suppose you get in exchange 1,000 lbs. of honey. The latter ought to bring, if clover or basswood, from 8 to 9 cts. Clearly, then, you have made a profit of at least 4 cts. per lb. on the syrup, or an aggregate of \$40.00 on the trade, because the honey would have taken the place of the sugar syrup in the brood-nest.

As Mr. Boardman well says, the farmer thinks nothing of feeding his stock, expecting to get returns. He who would say he could not afford to feed his hogs well because the grain that he would feed them would cost money, would be considered a fool indeed.

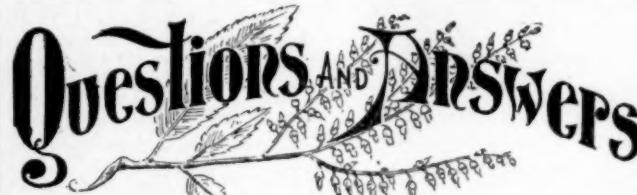
In view of the poor honey-years of late, and in view of the further fact that what little honey has come in has just about filled the brood-nest and no more, leaving little if any surplus, it would look as if Mr. Boardman's idea of substituting syrup

for honey, and pocketing the big difference in price between the syrup and honey, was simply utilizing good business sense.

One year when I called on Mr. Boardman, he had quite a crop of honey. He had been feeding, as I have explained. His neighbors round about him did not feed, and did not get any surplus honey. I firmly believe that many of our bee-keeping friends can just as well be getting a little surplus, and a little money for it, as to be going ahead on the old plan of getting no surplus, and nothing but bees in fair condition for winter. But suppose a big honey-flow does come, and you have followed Mr. Boardman's method of feeding; your hives filled full of sugar stores, and capped over, are just fairly boiling over with bees. It is perfectly evident you are going to get a big crop of honey that year, and all of that honey will be surplus.

One of my warm friends in Canada has written me, earnestly protesting against feeding the bees as Mr. Boardman does, clear up to the time when honey is coming in. He insists that, as soon as bees begin to gather from natural sources, they will crowd some of the sugar syrup from the brood-nest up into the sections or surplus combs. I have talked with Mr. Boardman on this very point, and he is very certain that, as he practices feeding, it is not done. I have also talked with other prominent bee-keepers, and written for the private opinion of others. All seem to feel that there is but little danger to be apprehended from that source. But we will suppose that my Canadian friend's point is well taken. To be on the safe side, then, stop feeding within a week or two of the expected honey-flow. If the stores in the brood-nest are capped over, there certainly can be no danger of the syrup's being carried above.

Taking the matter all in all, Mr. Boardman's idea of feeding offers the best solution of the problem as to what we are going to do with short honey seasons—in short, what will enable us to get all the honey there is in the field into surplus without wasting any of it in brood-rearing. E. R. Root.



CONDUCTED BY
DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

Moving Bees a Short Distance.

I have a colony of bees that I wish to move, perhaps $\frac{1}{4}$ mile, about May 1. There is another colony in the same yard that will remain. My colony is in a double 8-frame brood-chamber. Can I move them all right so short a distance by simply closing the entrance with wire-cloth, and carry them on a wheelbarrow?

BEE GINNER.
Lombard, Ill.

ANSWER.—Yes, you can wheel them that distance without much trouble, providing you have muscle enough and are careful not to tip over your load. Of course you will give them a little smoke before shutting them up. Then within a day or two after moving them you will find that all the field-bees have gone back to the old place, and you will have left in your hive nothing but the young or nurse-bees. So that will leave your colony in much the same condition as though a swarm had issued.

The bumping they get on the wheelbarrow will make some difference, for some of them will mark the new location that would not do so if they were set down very quietly in their new place. But most of the field-bees will go back to the old place, and after trying to find their hive there, will do the next best thing and join the colony that is left there.

If you put up a board before the entrance for them to bump against when they fly out, that will help some, for it will confuse them to some extent, and make some of them mark the new location. But do the best you can, there will be a large number go back to the old place.

So you may as well make up your mind the bees are going back, and act accordingly. Instead of moving the whole business all at once, take only one story, having in it all the bees you can get, the queen, and nearly all the brood. You will

leave on the old stand the one story with a little brood in it, say one frame, and then the returning bees will take up with that as their home. Or, instead of leaving one story, move both, and leave on the old stand another hive in which you put a frame of brood and a few bees. If the day is fine so that bees will fly well, there is no need to leave enough bees to take care of the brood, for enough returning bees will enter to take care of it.

Two to four days after moving, you can take the bees that are on the old stand and add them to those first moved, with the hope that a much larger number will remain where they are put. Being queenless they are inclined to stay better wherever they are put, and especially if given to a laying queen. If you care to follow the matter up, you can again leave a frame of brood in a hive on the old stand to catch remaining stragglers.

Don't forget to make it as troublesome as you can for the bees to fly out of their hive, by putting something in front of the entrance.

Backward Breeding—Granulated Stores.

We had a poor season last year, so the bees had to be fed on sugar syrup in the fall. I winter my bees on the summer stands. The last of March, on a warm, nice morning, I looked them over. Out of 17 colonies one died, 16 were all right in bees, very few brood in 11, and in the other 5 I found the queen but not any brood. The most stores was candied. I did not see any pollen-gathering yet, and working on flowers like other springs.

1. What can be the reason that the bees are breeding so slow this season? Is it the candied stores that cannot be used for brood-rearing?

2. Why did the stores candy more last winter than the years before, when the bees were fed the same way?

3. Will I do right to feed my bees sugar syrup for brood-rearing now?

G. R.

Bennet, Nebr.

ANSWERS.—1. Hard to tell. Difference in season may have something to do with it. Granulated honey might be somewhat to blame. In rare cases bees fail to breed for lack of pollen in the hive.

2. Another hard question. Some kinds of honey granulate sooner than others. Some years are worse than others. Some times honey is granulated before the weather is cold, sometimes hardly in all winter. These facts are known, but I'm not sure that any one pretends to tell why. One general principle is that severe cold favors granulation. Stirring or shaking the honey also favors granulation. I've seen it stated that honey was slow to granulate because of a wet season, the idea being that the thinner the honey the less inclined to granulate. I'm inclined to think that the reverse is the truth, for I've seen a crock of honey water on top and solid below, and I have seen it thick and stringy with not a granule.

If you mean that the sugar syrup fed to the bees granulated, then the reason might be the difference in the lateness of feeding, difference in rapidity, or difference in thickness of syrup. If the food is given early, slowly, or quite thin, then it is less likely to granulate.

Questions About Transferring, Etc.

1. I am just starting in the bee-business, having purchased 4 colonies of black bees last month, moved them home on a sleigh two miles, giving them a good shaking up. I bought bees, honey and comb for \$2 per colony; three of them are in "farmer" made 10-frame Langstroth hives, and one in an 8-frame Armstrong. They are very strong colonies, and I should judge that they have 25 pounds of honey to the hive. I don't care for the honey this year as much as for increase. I have bought ten 8-frame dovetailed hives, and I am going to try the Heddon short method of transferring. Is that what you would do if you were in my place?

2. My bees are black. When I transfer, would you advise me to kill the black queens and introduce eight Italian queens.

3. I live in the Sacandaga valley, which is 5 miles wide and 15 long. There are no bees kept here to amount to anything. One man to the east 4 miles, keeps 40 colonies. Do you think I have pasturage for 100 colonies? Basswood grows on the mountains on each side of the valley, also plenty of buckwheat. I am going to run for comb honey only. I expect to winter my bees in a cellar. I have a good one, 40x40x8 feet.

4. Would May 1 be a good time to transfer?

5. Suppose I move the old hive to a new stand, put a new one in its place, and transfer by Heddon's way, will not the balance of the bees in the old hive desert the brood and go to the new hive which is on the old stand before the 21 days are up? or will they know enough to return to the brood after going out for a flight?

6. Will there be enough brood to be advisable to transfer May 1? I examined my bees to-day, and they are doing finely. They cover both sides of four combs to each hive. The bottom-boards are on the hives, and no cloth over the brood-frames, only a top-story set on, the same as when I got them.

P. O.

Northampton, N. Y.

ANSWERS.—1. I hardly know whether I'd transfer them all. If the hives they are in are in good condition, it's possible you might do as well to leave at least part of them right where they are. The swarms would go into new hives, of course, and after a year's experience you would be in better condition to know what to do about transferring them another year.

2. That depends a little upon whether you think more of fun or money. You can have more fun, or more experience, by changing all the queens early in the season. But if the matter of economy is to be considered, it is hardly advisable to change queens till later. The queens themselves will cost less later in the season. There will be less danger of loss in introducing, and if a queen is lost in introducing early in the season, the damage done by having a colony left queenless for some time is much greater than in the time of harvest. At this later time queen-cells are generally plenty, or you can have a supply of young queens on hand. If you Italianize one of them early, then you will have a chance to rear queens for the others. Still, the expense of four queens will not be so very heavy, and if you don't mind the expense you will the sooner have all black blood worked out.

3. I can only guess, but I should think 100 colonies might be well supported at your place.

4. Don't go by the almanac in the matter of transferring. Go by the season, and take the time of fruit-bloom.

5. Of course, you mustn't "drive" too close, for if every last bee is taken from the hive there's nothing left for the brood to do but to die. All the field-bees that are left in the old hive will go back to the old stand, but the young bees—that is, the nurse-bees—those under 16 days old, will all stay where they are put, and at this time there are lots of young bees and more emerging every day.

6. Most likely. It isn't a question of how much brood they have so much as a question of the amount of bees. Still, the two go together generally, and if there isn't a good lot of brood it isn't likely there are many bees in fruit-bloom.

Closed-End Standing Frame Hives, Etc.

1. I wish you would give your unbiased opinion about the closed-end standing-frame hive, especially about its merits over the other kinds.

2. Please inform me, if you think favorably, how to fix such a hive to fit under patter slat honey-boxes, *a la* the Root dovetail super. I think a 9-frame, standing-frame hive should fit nicely a 7-frame section super.

L. D.

ANSWERS.—1. I have had no personal experience with closed-end standing-frame hives. They have been in use for a long time, and are used by some of the leading bee-keepers in New York State. The one feature that seems to be most in their favor is that the closed ends make the hive more like a box-hive as to warmth, there being no open space for the air to circulate all around the ends of the frames. There's much in being used to a thing, and those who have always used them will prefer them, but taken all in all, I don't believe I should want them.

2. I don't know what "patter slat honey-boxes" are, but I suppose the point you are after is to know how to adjust a super to a hive when super and hive are not of the same size. If the super is shorter than the hive—and some of them are half an inch or so shorter—nail a cleat or cleats on the end of the super to make the super cover the hive. The discrepancy is more likely to be in the width, and I have had hives with supers some three inches narrower. All I had to do was to put the super on the hive, and use a strip of wood to cover the part of the hive left uncovered. No need to fasten it on, just lay it on, and I never knew any harm from rain entering between the strip and the super.



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your close selection of lumber. Yours very truly, O. K. OLMSTEAD, Orleans, Nebr.

Dear Sirs:—The Sections arrived in due time, and are all O. K. so far as examined. I hope you may live long and do well.

Yours respectfully, Z. S. WEAVER, Courtney, Tex.

Gents:—I received the "Higginsville Smoker" all O. K. It's a dandy; please find enclosed

stamps for another. Yours truly, OTTO ENDERS, Oswegathee, N. Y.

Gentlemen:—I have bought Supplies from nearly all the large manufacturers by the car-load, and I must say yours are as good as the best. Indeed, in many lines they are the best. It is a pleasure to handle them.

E. T. FLANAGAN, Belleville, Illinois.

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General Items.

Successful Wintering.

On Nov. 11 and 12, 1895, I put 118 colonies of bees into my wintering-house, and today I have removed the last of them to the summer stands, not having lost a single colony of the number. I have two house-apiaries away from home, that have wintered nearly as well. The brood-chambers in my home-apriary are 12 by 13 inches, inside measure, and 10 inches high.

W. J. DAVIS, 1st.

Youngsville, Pa., March 28.

An Experience with Bees.

This is the third season that I have kept bees. I caught my first and second swarms in nail-kegs and transferred to frame hives, and wintered them on the summer stands. My frames are 13 $\frac{1}{2}$ x 11 inches, 10 to a hive, and as yet I have no reason to change. Last winter I packed my six colonies on the summer stands with leaves—about 3 inches on the sides, and about 7 or 8 inches on top of the cover, and they are all alive now. From my two colonies, spring count, I extracted 53 pounds of honey, and have about 40 nice extracting-frames with comb in them. My bees are blacks, hybrids, and I have one colony of Italians.

S. K. LUTHER.

Olneyville, R. I., March 30.

Bees in Louisiana.

My bees are doing finely. I have only 5 colonies left; two came out of winter quarters overflowing with bees, and the others are very poor, but I expect to make them tip-top this spring. White clover is in abundance here; the peach and plum have bloomed. Bees gathered lots of nectar from the peach. Honey locust is in bloom now. The South is in bloom with spring flowers of all kinds. Bees are working on everything. One thing we have here all the year around is—the infernal bee-moth. Indications show that we will have a good fall crop of golden-rod. Dewberry seems to be the favorite flower of the bees just now, as it furnishes both pollen and nectar. Willow and elm are in bloom also. I expect to get lots of honey this year. I did not get much last year.

New Orleans, La. JAMES B. DRURY.

Down with Adulteration.

MR. EDITOR:—I have just read J. H. Martin's article, entitled, "The Honey Competition Fallacy." It is right to the point. Are we not going to do something about it? Have we any laws about it? If not, are the difficulties so great in the way of getting some effective laws, such as some States, and Canada, have? We want laws compelling all producers or manufacturers of articles of food to label truly the constituents of everything offered for sale, with heavy penalties for violations. Let our "big guns" boom the alarm, and do so in such a way as to wake everybody up to their senses.

You will remember I sent you a sample of honey, for your opinion on it. A man calling himself J. C. Hogarth, of California, has been on the line of the Rock Island railroad selling so-called California honey in 50-pound cans, at whatever price he can get. An Ottawa firm, that had bought 100 pounds from him, found that their customers, who were used to my honey, would not buy it; they had to dispose of it the best they could, and return to mine. It is some of that honey I sent you. Now, who is J. C. Hogarth? Can somebody vouch for him? Some of our leaders, or would-be leaders, have advised us to keep still on the subject. I think it bad advice. We should never keep still until we have stilled the adulterators, or at least until we have

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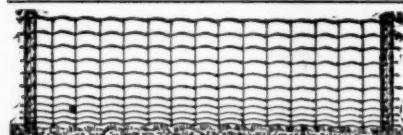
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C. B. BANKSTON,
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obtained laws compelling adulterators to call their stuff what it really is.

What is the use to work faithfully for years to create a home market for honest home product, and at last be undermined and undersold by a mixture of half glucose or more, sold for honey, to unsuspecting purchasers?

I am not jealous of honest competitors, and honest, straight goods—if such can undersell me, well, I say, good for the consumers, we all must live, and the buyers are in the majority; but fraudulent competition is what *rules* me.

Let us awake and do something!
Utica, Ill.

A. MOTTAZ.

[Yes, the sample of so-called "honey" which Mr. Mottaz sent us was pretty vile stuff. We pronounced it glucosed, at once. What a pity that we have no good laws that would help put the villainous adulterators where they belong. With the best glucose at one cent a pound, what won't the criminally inclined do when they have a chance? Bee-keepers *must* arouse, united, and then push for anti-adulteration laws. Once having them (the laws), we'll soon start the adulterators on the run.—ED.]

"Sure Remedy" for Rats.

Mr. Allen Pringle seems to be troubled with rats. The following is a sure remedy for rats, pocket-gophers and chicken lice:

Rats burrow under ground, consequently they have generally a back door and front door to their mansion. Close up one of the doors, and saturate a piece of cotton, or any other soft material, with Fuma-Carbon-Bisulphide, and poke into their hole, or holes, and then close them up tight, and there will be no more trouble with rats.

I would recommend Mr. Pringle to write to Edward R. Taylor, Chemical Manufacturer, Cleveland, Ohio, for his pamphlet on the various uses of Fuma-Carbon-Bisulphide, which also gives prices of same.

Champlin, Minn. VINCENT REEVES.

Working on Soft Maple and Elm.

My bees are in splendid condition, and working on soft maple and elm. I put 12 colonies and one nucleus into the cellar last fall, and took out 11 colonies, good and strong, and one weak colony, and lost the nucleus. The weak colony was one of the so-called goldens. I sent to Texas and got three warrented golden queens in 1894, but I am not satisfied, as they are not the bees for this country, for they can't stand the winters here; and they are not prolific enough, as there was none of the three queens that had over four frames of brood at one time. So give me the leather-colored bees for all purposes.

One of my neighbors has three colonies of bees that I will transfer this spring. They are in boxes 36x18, and 14 inches deep. "Boxes" is what I call them, but there was some fellow that sold them as "patent hives." JNO. H. RUFF.
Washington, Kans., March 29.

Bulletin No. 1—"The Honey-Bee."

In regard to the Bulletin No. 1 on "The Honey-Bee," issued by the Agricultural Department, I wish to say there is no reason why all bee-keepers should not receive the same consideration from their congressmen that we do from ours (Lucien Baker). It is only a matter of writing to them. Or why not have a list of bee-keepers and others interested in the pursuit forwarded by the different State societies? This is a chance in a thousand, to bring our industry before the Congress (and the world), then why not increase the demand for this Bulletin to such an extent that another edition will be necessary? When such an edition is asked for, it will be necessary to

ORIGINAL BINGHAM SMOKERS

Wonderful
Record!

HAVE LASTED 17
YEARS.

BEST ON EARTH.

Always Give Perfect Satisfaction.

My cool Wire Handle and Bent Nose were patented 1892, are the original, my best invention since my open or direct draft Patent, 1878, that revolutionized Bee-Smokers. My Handle and Nose Patent bent all the other smoker noses. None but Bingham Smokers have all the best improvements. If you buy **genuine Bingham Smokers and Honey-Knives** you will never regret it. The "Doctor," $\frac{3}{4}$ -inch larger than any other smoker on the market— $\frac{3}{4}$ -inch stove. by mail, \$1.50.

Conqueror, 3" 1.10
Large, 2 $\frac{1}{4}$ -in. " 1.00
Plain, 2-in. " .70
Little Wonder, 2-in., wt. 10 oz. .60

Bingham & Hetherington Honey-Knives, 80 cents.

T. F. BINGHAM, Farwell, Mich.
7Atf Mention the Bee Journal.

PATENT WIRED COMB FOUNDATION

Has No Sag in Brood-Frames

Thin Flat-Bottom Foundation

Has No Fishbone in the Surplus Honey.

Being the cleanest is usually worked the quickest of any Foundation made.

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook Montgomery Co., N. Y.

BEGINNERS.

Beginners should have a copy of the Amateur Bee-Keeper, a 70-page book by Prof. J. W. Rouse. Price 25 cents; if sent by mail, 28c. The little book and the Progressive Bee-Keeper (a live, progressive 28-page monthly journal) one year, 65c. Address any first-class dealer, or

LEAHY MFG. CO., Higginsville, Mo.

SUCCESSFUL FRUIT CROWERS

SPRAY THEIR TREES.

THE DEMING SPRAY PUMPS

ARE THE "WORLD'S BEST"

Send for complete catalogue and treatise on spraying, mailed FREE. The DEMING CO. Henion & Hubbell, Western Agts., Chicago, Ill. Salem, Ohio.

Mention the American Bee Journal.

J. W. TAYLOR

HAS THE BEST—

Italian Queens for Sale

Untested, ready now, 75c. apiece; 6 for \$4.25, or 12 for \$8.00. Tested, \$1.25. Select Tested, best, \$2.00. Pay for Queens on arrival. I guarantee safe arrival and satisfaction.

14A9t

OZAN, ARK.

Sweet Clover & Canada.

At the following prices:

5 lbs.	10 lbs.	25 lbs.	50 lbs.
\$1.00	\$1.60	\$3.75	\$7.25

Also a quantity of Motherwort and Catnip seed. Prices on application.

EGGS for Hatching. Buff Leghorns, Indian Games, & Light Brahmans. Choice Birds. A breeder for 30 years. Prices on application

JOHN McARTHUR,

881 Yonge Street, TORONTO, ONT.

15Atf Mention the American Bee Journal.

Say, Please Other Jumbo for Copy of
That Practical Beautiful Jumbo for Copy of
The ACIFIC BEE OCOSE PAPER,
BEE-KEEPING IN JOURNAL.

CALIFORNIA, OREGON, WASHINGTON, NEVADA,
IDAHO, UTAH, ARIZONA, COLORADO.

All Easterners should keep in "touch" on the "LAND OF SUNSHINE"—the COMING BEE-LAND.

Address, PACIFIC BEE-JOURNAL, 365 East Second Street, LOS ANGELES, CALIF.

\$1

Buys a "ST. JOE" hive during April only, made up, Sections and Starters, no paint. One only, to new customers, to show you the best hive made.

Satisfaction guaranteed. Say how to ship, and send on your \$1

Golden Wyandotte Eggs for hatching, only \$1.00 for 18.

EMERSON T. ABBOTT, ST. JOSEPH, MO.

explain why, and what has become of the previous edition. Thirty-five thousand families is what is represented by the previous edition, and congressmen will naturally ask:

"Where are these people located, and who are they? Will it pay me, and serve my interests, to countenance, or can I afford to lose their support by ignoring their rights and wishes?"

There is a difference of 70,000 in having and not having this support. Can we as bee-keepers then ignore the chance open before us? There never has been as favorable an opportunity as now to put ourselves in position to ask for future favors. I am one of those who believe in getting all I can, and keeping all I get. I am not in position to apply for a pension, and I do not wish to go to the penitentiary, so the only thing I can get is good laws for my protection and the protection of my business; and to get this favor I will not ask others to do what I am not doing.

Come, bee-keepers, and show your hand. Don't let the chance slip? Herrington, Kans. F. W. CAMPBELL.

Bees in Good Condition.

I have 10 colonies of bees in good condition. I like the Bee Journal very much—could not get along without it.

Hennepin, Ill., April 6. F. P. HAM.

Bees Doing Finely.

Bees are doing finely here now. I have had two swarms already—March 28th and 30th.

ERNEST W. HALSTEAD.

Ocean Springs, Miss., April 4.

Failed to Breed Up Last Fall.

My loss is 5 out of 11 colonies, for want of breeding up last fall. No surplus last year; too dry.

EZRA SMITH, M. D.

Judd's Corners, Mich., April 1.

Bees in Good Condition.

Bees were carrying in pollen on March 31—two weeks later than last spring. White and Alsike clovers are looking fine. I have 42 colonies of bees in good condition in 10-frame hives.

JACOB WIRTH.

Rickel, Ill., April 4.

Bees Wintered Well.

Bees have wintered well, and the prospect for a honey crop is flattering. My average per colony, spring count, was 42 pounds for last year. I have 12 colonies in very good condition. I would not be without the Bee Journal for twice its cost.

W. E. WHITTINGTON.

Benton, Ill., April 3.

Early Swarming.

My one colony sent out a fine swarm today. Who can beat that? As I wasn't "prepared," I had to house them in a box. I think I have a fine place for bees, as there is an abundance of flora of various kinds—prairie flowers, shrubs and trees. There has been a profusion of bloom for six weeks.

MRS. M. M. DUNNEGAN.

Mathias, Tex., March 31.

Thought All Would Die.

I have been keeping from 10 to 20 colonies of bees for eight years, but last year was such a poor honey year that my bees barely made a living, and as I was not able to feed them in the fall, I expected they would all die, but a few have come through the hard winter, and I cannot find it in my heart to let them die now, though I am hardly able to fuss with them.

Miss M. I. MILLAR.

Lewiston, N. Y., March 27.

That Queen-Clipping Device Free!

PLEASE READ THE FOLLOWING OFFER:

We have arranged with the inventor of the new Queen-Clipping Device (Mr. Monette), to offer it to our present subscribers as a Premium for getting NEW subscribers.

Send us just one new name for the American Bee Journal a year (with \$1.00), and we will mail you the Queen-Clipping Device FREE of charge. Or, the Queen-Clipping Device will be sent postpaid for 50 cts. But why not get it as a Premium by the above offer? You can't earn 50 cts. any easier. Almost every bee-keeper will want this Device. See page 130 (Feb. 27) for full description of it. Complete directions accompany each one sent out. It is a most ingenious and useful article. Address,

GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

The Patent Wood-Veneer Foundation.

Bee-keepers should give it a test, and my All-Wax Foundation. I will guarantee there is no better made, as six years ago I discarded the old way of dipping for wax sheets, and a new invention of my own was discovered, which enables me to make the toughest kind of Foundation; also, no acid used to purify the Beeswax, and it preserves the smell of honey, which is more acceptable to the bees. Now is the time to send wax and have it worked up at low prices. Send for Samples and Catalog with low prices. Wax wanted at 31c cash, or 33c trade, delivered.

AUG. WEISS, Hortonville, Wis.
12A13t Please mention the Bee Journal.

For Sale 50 Colonies of Bees, in Langstroth 10-frame hives. Will deliver on cars here, at \$3.50 each. J. W. HOWELL, KENTON, TENN.

Honey-Clovers & Buckwheat

SEED FOR SALE.

We have made arrangements so that we can furnish seed of several of the Clovers and Japanese Buckwheat, by freight or express, at the following prices, cash with order:

	5lb	10lb	25lb	50lb
Alsike Clover	\$.70	\$1.25	\$3.00	\$ 5.75
Sweet Clover	.75	1.40	3.25	6.00
White Clover	1.25	2.00	4.50	8.00
Alfalfa Clover	.65	1.10	2.70	5.00
Crimson Clover	.55	.90	2.00	3.50
Jap. Buckwheat	.20	.35	.90	1.25

Prices subject to market changes.

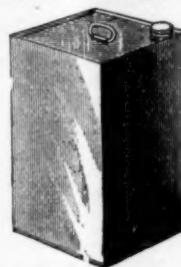
Add 25 cents to your order, for carriage, if wanted by freight.

Your orders are solicited.

GEORGE W. YORK & CO., CHICAGO, ILLS.

FIRST-CLASS BEE-SUPPLIES

at ROCK-BOTTOM PRICES. Send for Catalog to W. J. STAUFFMANN, WEAVER, MINN.



Extracted Honey for Sale!!

The beautiful, white Willow-Herb Honey, in 60-lb. cans, f. o. b. Chicago, at 8 cents per

pound, 2 cans (120 lbs.) in a box. Single can, 8 1/2 cts. per pound.

Sample of the honey mailed on receipt of 10 cts. This honey will give entire satisfaction, and is guaranteed strictly pure Michigan Willow-Herb honey. Better order at once, and begin to work up a trade before the new crop comes on. Address,

GEORGE W. YORK & CO., CHICAGO, ILLS.

W. H. BRIGHT'S

CIRCULAR FOR 1896, describes everything needed in the apiary. Bees, Queens, Hives, Sections, Spraying Pumps, and Bright's Comb Foundation, sold at bottom prices. Send for one free.

Wm. H. BRIGHT, MAZEPPA, MINN.

—LEADS THEM ALL 8 to 24 1/2 %—

See reports of experiments with Comb Foundation at the government station, Lapeer, Mich. FREE—large Illustrated Catalog of everything needed in the apiary. Full of information. M. H. Hunt, Bell Branch, Mich.

5Dtf Please mention this Journal.

Question-Box.

In the multitude of counsellors there is safety.—Prov. 11-14.

Sections, Supers and Separators.

Query 10.—1. What width sections do you prefer?

2. Two or four slots?

3. How do you fix sections in supers—by use of "section holders," T rests, or how?

4. Would you use "7-to-the-foot" sections without separators?—AFRICA.

Chas. Dadant & Son—1. 1½. 2. Three slots. 3. Pattern slats or T tins.

G. M. Doolittle—1. 1½ inches. 2. Two. 3. Wide frames. 4. No, nor any other.

Dr. J. P. H. Brown—1. 1½. 2. Two slots. 3. By a support similar to the T. 4. I would.

W. R. Graham—1. 1½. 2. Two slots. In crates or section-holders. 4. I don't use separators.

C. H. Dibbern—1. 1½ inches wide. 2. Two slots. 3. On the principle of section-holders. 4. No.

E. France—1. Two inch. 2. Two slots. 3. I use a super with slat bottoms. 4. I always use separators.

Allen Pringle—1. About 1½ or 1¾ at corners. 2. Four. 3. Section "holders." 4. I use separators mostly.

Dr. C. C. Miller—1. I don't know. Certainly not more than 1½, and less might be better. 2. Two. 3. T rests. 4. No.

Emerson T. Abbott—1. 1½ inches. 2. Four. 3. By use of pattern-slats and follower-boards. 4. I would not use separators with any sections.

Prof. A. J. Cook—1. I have generally used 7-to-the-foot. 3. Wide frames and T supers. 4. Yes, unless I always used separators, which I think is wise.

B. Taylor—1. 1½ inches. 2. I never tried 4 slots. 3. T rests. 4. I do with flat separators. A 7-to-the foot section filled will weigh but ¾ of a pound.

R. L. Taylor—1. 7-to-the-foot. 2. I am satisfied with two. 3. Single-tier wide-frames with separators, or in the Heddon-case without separators. 4. Yes.

Jas. A. Stone—1. 2 inches, or very little less, say 1 13/16. 2. Four slots. 3. By use of section-holders. 4. No. I would have separators between alternate sections.

H. D. Cutting—1. 1½ and 1¾. 2. Two, yet four works nicely with thick separators. 3. T rests, and I want them loose. 4. I never use sections without separators.

P. H. Elwood—1. 1½. 2. Two. 3. Mostly "how"—which means resting on slats in bottom of supers. 4. No, nor any other number to the foot without separators.

J. E. Pond—1. 1½ to 1¾ inches. 2. Two slots. 3. Section-holders or so-called broad-frames. 4. Yes. I think they would work fairly well, if care was taken in putting in the foundation.

G. W. Demaree—1. I prefer sections 1½ inches in width. 2. Two, all the time and decidedly. 3. Adjust them in T section-cases. 4. No need of just 7-to-the-foot. There cannot be any such thing practically, as 7-to-the-foot of soft

wood sections that swell and shrink as the weather affects them. I produce comb honey with and without separators, and I have hardly decided—I prefer both ways.

Eugene Secor—1. 7-to-the-foot and 2 inch, with separators. 2. Two—top and bottom. 3. T rests, section-holders and wide frames. 4. I prefer not to, if I want cratable honey.

J. M. Hamaugh—1. 1½ or 1¾. 2. I have never used four slots. 3. I prefer the Miller T super. 4. The use of separators is preferable, when producing honey for the market.

W. G. Larrabee—1½ inches. 2. Two. 3. I use a slatted-bottom super with separators that amounts to about the same as "section-holders," but I consider them handier. 4. No, I would always use separators.

Mrs. L. Harrison—1. I am using 1½ inch at present, and rather prefer it. 2. Four slots. 3. I use the Heddon-case. 4. I used 7-to-the-foot sections, in the Heddon-case formerly without separators, and they gave very good satisfaction.

Rev. M. Mahin—1. If separators are used, 2 inches; without separators, 1½. 2. Two. 3. The bottom of my section-case is made of slats 1½ inches wide, with slots similar to those in the sections. The ends of the sections rest on strips resting on the bottom of the case. I have no trouble with burr-combs.

M. FULLERTON,
18 Gansevoort St., New York, N. Y.,
Wholesale dealer in

Honey, Beeswax, Maple Sugar & Syrup
Strictly Fresh Eggs a Specialty.

My trade being direct and only with the retail Grocers and Hotels, gives me a regular outlet at the very best prices obtainable.

Mention the American Bee Journal.


Promptness Is What Counts!
Honey-Jars, Shipping-Cases, and everything that bee-keepers use. **Root's Goods at Root's Prices**, and the best shipping point in the country. Dealer in Honey and Beeswax. Catalogue Free.

Walter S. Pouder
162 Mass. Ave.
INDIANAPOLIS, IND.

Mention the American Bee Journal.

BEES & QUEENS.

Strong, full Colonies of Italian-Hybrid Bees, in Langstroth 9-frame hives, at \$5.00 per colony; 5 to 10 colonies, \$4.75 each. Special low price on larger orders. Bees are in good condition, and are fine honey-gatherers.

Italian Queens—after May 15—Untested, \$1.00 each; 6 for \$5.00; 12 for \$9.00.

Safe arrival and satisfaction guaranteed. Reference—George W. York & Co. Address,

F. GRABBE,
LIBERTYVILLE, ILL.,
32 mi. northwest of Chicago, on C. M. & St. P.

Mention the American Bee Journal.

Bee-Keepers' Photograph.—We have now on hand a limited number of excellent photographs of prominent bee-keepers—a number of pictures on one card. The likeness of 49 of them are shown on one of the photographs, and 121 on the other. We will send them, postpaid, for 50 cents each, mailing from the 121 kind first; then after they are all gone, we will send the 49 kind. So those who order first will get the most "faces" for their money. Send orders to the Bee Journal office.

Honey & Beeswax Market Quotations.

CAICAGO, ILL., Apr. 11.—We quote: Fancy white comb, 15c.; ordinary white, 12@13c.; fancy amber, 10@11c.; amber and dark, 7@9c. Extracted, white, 5@7c.; amber and dark, 4@5c. Beeswax, yellow, 30c.

The season for sale of comb honey is now at a close, and only a case or so will be taken for colds, and by enthusiasts on honey as a food (of whom there are too few). R. A. B. & Co.

CINCINNATI, O., Apr. 8.—Demand is good for choice white comb honey, at 12@14c., and slow for extracted, at 4@7c. on arrival. Beeswax is in good demand at 25@30c. for good choice yellow. C. F. M. & S.

KANSAS CITY, MO., Apr. 9.—The demand for comb and extracted is fair. We quote: No. 1 white, 1-lbs., 13@14c.; No. 2, 11@12c.; No. 1 amber, 10@12c.; No. 2, 8@10c. Extracted, white, 6@8½c.; amber, 5@6½c. Beeswax, 22@25c. C. C. C. & Co.

PHILADELPHIA, PA., April 4.—The demand is falling off very rapidly for comb honey, and prices are decidedly lower. Extracted seems to be shipped in from all quarters. We quote: Fancy comb, 11c.; fair to good, 7½@9c. Extracted, 4@5c. Beeswax, 30c. W. A. S.

NEW YORK, N. Y., Mar. 23.—There is a fair demand for white comb honey, and the market is well cleaned up. We have another car now in transit from California. We quote same: 12@14c. Plenty of buckwheat comb is on the market, and same is moving off slowly at 8c. Extracted, all grades, dull, at unchanged prices. Beeswax firm at 30@31c. H. B. & S.

List of Honey and Beeswax Dealers.

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 163 South Water Street.

New York, N. Y.

HILDRETH BROS. & SEGELEN,
120 & 122 West Broadway.

CHAS. ISRAEL & BROS., 486 Canal St.

Kansas City, Mo.

C. C. CLEMOMS & Co., 423 Walnut St.

Buffalo, N. Y.

BATTERSON & Co., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Philadelphia, Pa.

W. M. A. SELSER, 10 Vine St.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Convention Notices.

ILLINOIS.—The spring meeting of the Northern Illinois Bee-Keepers' Association will be held at the home of Mr. O. J. Cummings, in Gullford, on May 19, 1896. Come, and bring your wives and friends interested in bees. New Milford, Ills. B. KENNEDY, Sec.

CONNECTICUT.—The annual meeting of the Connecticut Bee-Keepers' Association will be held at the Capitol in Hartford, Wednesday, April 29, beginning at 10:30 a.m. Free to all. MRS. W. E. RILEY, Sec.

Waterbury, Conn.

Catalogs for 1896.—We have received the following Catalogs, Price-Lists, etc., a copy of which may be obtained upon application, always being careful to say you saw their advertisement in the American Bee Journal:

E. T. Flanagan, Belleville, Ill.—Bee-Keepers' Supplies, Bees and Queens.

D. Hill, Dundee, Ill.—Evergreen Specialist.

The Deming Co., Salem, Ohio.—Spray Pumps and Nozzles.

E. Kretchmer, Red Oak, Iowa.—Bee-Keepers' Supplies, Italian Bees, etc.

W. J. Stahmann, Weaver, Minn.—Bee-Supplies, Bees, etc.

W. J. Finch, Jr., Springfield, Ill.—Bee-Keepers' Supplies, Italian Bees and Queens.



16A4t Mention the American Bee Journal

The La. Bee-Keepers' Supply & Wood Work Mfy.

WANTED—Some one to run my business on shares. Address, Box 54, Donaldsonville, La.

Mention the American Bee Journal 16A2t

PURE BARRED PLYMOUTH ROCK

Eggs, \$1.25 per 14. Our P. Rocks are very large, with fine plumage. Also,

BLACK MINORCA EGGS.

a non-sitting and great laying breed. Both kinds raised upon our farm. Minorca Cock-crests, \$1.00 each. Mrs. L. C. AXTELL, ROSEVILLE, Warren Co., ILL.

1896 SAVE MONEY 1896

If you want first-class ITALIAN QUEENS FOR BUSINESS, Foundation at Wholesale Prices. Hives, suited for the South, or SUPPLIES, send for Price-List—

J. P. H. BROWN, AUGUSTA, GA.

IF YOU WANT THE**BEE-BOOK**

That covers the whole Apicultural Field more completely than any other published, send \$1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-keeper's Guide.

Liberal Discounts to the Trade.

Kansas Bee-Keepers!**—SAVE FREIGHT—****A Car-load of "Higginsville Bee-Supplies"**

just received. GET MY CATALOGUE.

HENRY L. MILLER,
355 Shawnee Ave., TOPEKA, KAN.

1A1st Mention the American Bee Journal.

HONEY We have a large amount of Pure No. 1 Alfalfa we will sell cheap.

SEED Of those great honey-producing plants—Alfalfa and Cleome or Rocky Mountain Honey-Plant. Alfalfa seed at 7 cts. a lb.

Boss bee-escape Warranted the best, simplest and quickest Escape on the market. Sent postpaid to any address for 50 cts. It can be returned at our expense if it is not as represented, or we will send the Escape on trial to any bee-keeper wishing to test it in good faith. We are agents for the

Ferguson Patent Hive Super and Wicket-Gate Honey-Board, with the Escape. It is the easiest, quickest hive to handle for the production of comb honey. Address,

E. S. LOVESY & CO.,
355 6th East St., SALT LAKE CITY, UTAH.

Mention the American Bee Journal. 9Atf

A Good Apiary for Sale.

150 Colonies (more or less) of Italian and Hybrid Bees in Langstroth hives, mostly double-story for extracting, with the extra Combs as well; nearly 100 Empty Hives, complete; good Honey-House, Extractor, Honey-Tanks, and all Fixtures. In a location where there has been a good surplus crop every year for the past 20 years, from Spanish-needle, clover, etc. Will sell for part cash, and balance in extracted honey in September, at 6 cents per pound at the apiary. Price reasonable.

Address, G. F., care Am. Bee Journal,
118 Michigan Street, CHICAGO, ILL.**PERSONAL MENTION.**

MR. R. F. HOLTERMANN, editor of the Canadian Bee Journal, recently gave an address on "Bee-Keeping," before the Agricultural Committee, in the House of Commons, at Ottawa, Canada.

MR. CHAS. MONDENG, who is a bee-keeper as well as a first-class wood-working mechanic of 16 years' experience in this country, and several years in Germany, has taken charge of the bee-supply factory of W. H. Putnam, at River Falls, Wis.

MR. THADDEUS SMITH, of Frankfort, Ky., in a recent number of Gleanings came out strongly "agin" the free distribution of the Benton book in large numbers. Rev. E. T. Abbott, of St. Joseph, Mo., agrees with Mr. Smith. Which shows there are two sides to the subject, like many another.

MR. J. A. GOLDEN, of Reinersville, Ohio, was visited by fire on Feb. 2. His photograph gallery took fire from a spark that had been blown under a metal roof put on over an old shingle roof. His furniture was all saved. This was the second fire that Mr. Golden has suffered in two years. We hope it will be the last.

MR. H. D. CUTTING, of Tecumseh, Mich., has been confined to the house the greater part of the time since Jan. 5. He was taken with inflammation of the liver, then neuralgia, and on April 1 was trying to get over the second attack of "la grippe." Surely our good friend has had need of Joblike patience and forbearance. We hope he will conquer all the attacks of pain-producing enemies, and soon be his jolly, good-natured self again.

MR. W. R. GRAHAM, of Greenville, Tex., wrote thus on April 2: "The Texas State Bee-Keepers' Association is now in session—a fine attendance, and much interest is manifested. It is the 18th annual meeting. Prospects in the bee-business are fine." Good for big Texas. We are expecting great things from that part of our country in the near future. The South is yet to be the bee's paradise, we believe. But the North will continue to do business "at the old stand," as usual.

MR. J. F. HEWITT, of the State of Washington, wrote thus when remitting for his subscription:

"I have had the pleasure of reading the American Bee Journal for the past three months, and consider I have gotten a dollar's worth of reading already, for it is really a mint of information, and any one in the bee-business is losing ground by not reading the American Bee Journal. I am a beginner, and every word is devoured (in a manner), for every number has something that is just what I am looking for."

MR. J. B. HALL, of Woodstock, Ont., is known as Canada's comb honey chief. In 1883 he exhibited 22,000 pounds of honey at the Toronto Fair, and 11,000 pounds of it was comb honey in sections. Mr. H. produced and sold in one year \$3,000 worth of honey. Out of his honey crops he built a large, two-story brick house, and banked money enough to carry him over all the poor honey seasons. Mr. Hall is very popular with all the bee-keepers, and being such a successful specialist in bee-keeping, his opinions are always valued highly in bee-matters. After saying all this (which we learned through one of our good Canadian friends)—would you believe it?—this same J. B. Hall won't open his head except he's driven to it in a convention discussion! My, but he can talk! but on paper he's so very mum, (for a Canadian), that it seems strange. He's a good man, though, and we liked him very much when we had the pleasure of meeting him at the Toronto convention last September.

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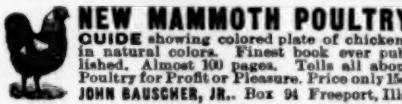
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